

TATURE was surprised, and her plans considerably upset when Man stood up on his hind legs and began to walk around in an erect position.

If there is any one thing which science is sure of it is that we are descended from enimals which were planned to run around on all fours like the cat and dog.

A dog can stand up on his hind legs, but it is a tiring and uncertain thing for ribs and breastbone of a delicate him. The monkey has practiced the thing and succeeds much better on his hind legs. Man has accomplished the feat best of all.

But the human race has had to pay a considerable penalty for the privilege of walking on two legs instead of on four legs, as Nature originally intended. Our human mechanism is designed to operate on four legs. The far-reaching consequences to mankind which have followed the change to the erect position are many

Rheumatism, appendicitis, catarrh, adenoids, stomach trouble and intestinal diseases are a few of the things which afflict man and not the animals, because we walk on our hind legs.

Dr. J. Knox Thompson, the distinguished English scientist and anatomist, has for many years been making a study of the ailments which have resulted from our upsetting nature's plan. He recently discussed his discoveries in a lecture before the Liverpool Medical Society.

He strongly recommends that children should be encouraged to run about on all fours and should never be urged to walk until they really want to.

By careful inquiry the physician has found that scrubwomen derive great comfort and pleasure from their position on all fours and that they are free from many of the diseases that afflict other women. He recommends a series of exercises on all fours for men, women and children suffering from the troubles due to the erect posture.

It has, of course, been proved that man evolved from an animal that went on all fours, but few realize that we have not yet recovered from the shock of changing our position. How long ago man changed to the erect position has not yet been proved. but there is much evidence that he walked, ran and swam in the horizontal position for many ages longer than he has stood

Some time in the dim past an ancestor of man, a monkey-like animal, took to living in the trees. He used his fore paws to grasp the branches and thus developed hands, while the fore paws of the animals that ran on the ground grew stiff and

stunted Hanging by the branches caused man's ancestor to develop an upright figure, flexible at the hips, unlike the quadruped's figure. He turned his head around as he sat among the branches and learned to book up and all about him. At a later stage he dropped from the tree to the earth and found that his erect position gave him a great advantage in running. fighting, turning his head to look about him and earning his living.

But this position entailed innumerable ills. It caused a gravitation of the blood and all waste products in the circulation toward the lower part of the body. This led to congestion in the legs and abdomen, appendicitis and many kinds of intestinal

Dr. Knox Thompson has found that adenoid growths in the throats of children are caused by the erect posture. They are

a part of the general weaknesses of throat and chest due to that

Stomach and

Bowels Lie in the

Natural Position

for Them to Func-

tion Properly.

In the upright position the child tend to sag down owing the weakness of the muscles in front of the neck, lessening the chest and breathing capacity. The up-and-down movement of the ribs in breathing is restricted, and this increases the liabil-

The insufficient breathing capacity leads to poor circulation in the mucous surfaces of the nose and throat. and thus catarrh is set up even in the youngest children. This is the direct

same cause, as the mastoid cavity has its of lying so that its contents can run out.

what there is escapes by evaporation.

on all fours.

Germs from the bad teeth and from the inflamed tonsils and adenoids caused by the erect posture, as already explained. drain into the lungs and stomach, cause rheumatism and other diseases and affect the whole system. The dog, and other quadrupeds escape most of these germ roubles because the dangerous germs are

not so completely bottled up in the body. in the quadruped the heart and lungs rest upon the breastbone and portions of ribs, so that the chest is strengthened against atmospheric pressure at its weakest points. In man the heart and lungs rest mainly on the diaphragm and to some extent swing from the fibrous tissue atached to the backbone. This gives rise to

flat chest and hollow chest, Man is much more subject to pneumonia and pleurisy than the animals. His uptight position renders it difficult to expel mucus and other secretions from the tubes. The human cough is a peculiarly

distressing affection. Infections in the larynx drift into the lungs in the erect position and then they pass to the base of the lungs, where they do the greatest injury.

The marvellous rurning performances of the dog, the deer and other animals are made possible by the arrangement of their lungs in the horizontal position. Suc't running is impossible to man on account of his up-ended lungs, and those 'ew men who are exceptional runners suffer greatly in their efforts.

ity to tuberculosis of the lungs.

cause of adenoids.

Mastoiditis, the jaw disease now so common among children, is attributed to the outlet raised up in human beings instead

The sinuses, or bony hollows of the face, are all raised by the erect posture so that infected matter which collects in them does not drain out, as it would in quadrupeds. That is why man suffers so much from sinus disease.

The origin of spitting in man is the erect posture. The lower animals do not require to spit, because saliva and secretions do not accumulate in such large quantities in their mouths and throats, and

Dr. Thompson holds that one of the many reasons why men's teeth decay more than those of animals lies in the erect posture. The primary cause of the decay is that our teeth are not as freely washed saliva as those of the animals standing

> tended It to Be. In man the lungs are set up on end, with their whole weight supported on the diaphragm. The lower lobes are constantly more or less compressed and sodden. Their tops are almost strangled by the two upper ribs pressing on them like a collar. In the animals the ribs instead of

pressing on them support them. Walking and running in the upright posture put a great strain on all the bones and joints of the human spinal column and the lower limbs. The jar of suddenly a ighting on the ground is greatly increased and transmitted along the whole spine to the base of the skull, leading to greater likelihood of injury to the bones. to fracture of the spine and concussion of

the brain than in the quadruped position. Disease of the middle ear is common in man because the Eustachian tube has its cutlet higher than the ear instead of lower. as in quadrupeds. Dr. Thompson recommends that sufferers from this disease should lie face downward, which is approximately the quadruped position, in order to assist drainage.

which is terribly frequent in children, arises from this In man diseased vertebrae

the strain of holding the body erect. Hence rheumatism of the back and lumbago are brought on, the strain on the muscles, exposure to weather and poisonous products in the blood combining to produce these painful results.

The difficulty of holding the erect position is shown by the bent and shuffling gait into which old and feeble people naturally fall.

Next to the back the abdominal muscles suffer most from the erect posture. In quadrupeds the heavy weight of the abdominal organs is distributed evenly over the whole surface of the abdomen, while in man it falls on the lower part, giving rise to hernia, protruding abdomen, calculus and a hundred other troubles.

The upright position puts a greatly increased strain on the blood-pumping functions of the heart. The top of a man's 'head is two feet above his heart, while that of the horse is only half a foot. This means

an addition of 20 per cent to the blood pressure in the left ventricle of a man's heart, as compared with the horse's heart.

In addition the pressure on the blood vessels is increased according to their depth helow the heart. The human system is not yet perfectly adapted to the pressure in the lower extremities. especially in the old and feeble. This beips to explain the feebleness of the legs that affects old persons. The erect position

favors anaemia of the they relieve some of the discomforts of brain, and this explains why soldiers, nurses and others who have been standing s long time so frequently faint. Paralytic stroke, or cerebral hemorrhage, is largely due to the great variation in pressure on the human brain arteries.

The distressing conditions that affect the legs and feet of vigorous persons must be attributed largely to the strain of the erect position. Varicose veins are almost antirely due to this position. Even corns

are mainly traceable to it. Women suffer more than men as a result of the erect position. Their muscles are weaker and hence the strain of the downward drag of the tissues affects them more. They wear high-heeled boots to save their calf muscles and corsets to support the flaccid abdominal muscles and the spine! But they cannot wholly overcome the sufferings caused by their un-

natural position.

The state of the s

the erect position do not appear to cause great trouble, but in women, the feeble and the old, the disadvantages are always apparent. Downward displacement of the abdomfhal organs are very common among pecially the transverse colon, the kidneys pling, which cannot be cured. and spleen are frequently displaced and

Only human beings become may sink right down into the pelvis. In the animals the stomach, colon, etc. The muscles of the human do not hang suspended by ligaments, but body are not yet adapted, after rest evenly throughout their extent on the all these ages of evolution, to broad, strong surface of the abdominal wall. Their kidneys rest instead of being suspended. The abdominal contents do not press on the pelvic floor and hernia is rare among them. The thighs of animals are usually bent on the abdomen and this lends additional support.

Appendicitis and inflammation of the intestines are especially diseases of the erect position. The intestinal action must force the food up through the ascending colon, and if this force is sluggish there is stagnation at the base of the colon. leading to appendicitis and other troubles. In the animals the intestines lie in a nearly horizontal position and the contents do not have to be forced upward.

Man's peculiar habits of eating and living exaggerate the evils inseparable from the erect posture. All rich and indigestible foods produce numerous poisonous products in the blood, and these sink by gravitation to the lower part of the body, caus-

ing rheumatism, gout and similar troubles. And what are the practical lessons that we should learn from these discoveries about the erect posture?

"Considering the direct and indirect responsibility of erect posture for so much disease and suffering," said Dr. Knox Thompson, "I believe that the knowledge of that responsibility has not been sufficiently utilized for the cure of certain diseases. Among them may be mentioned most of the catarrhs and derangements of the respiratory and gastro-intestinal tract. comprising chronic nasal catarrh, acute and chronic middle-ear disease, disease of the antrum of Highmore and other accessory sinuses, bronchitis, bronchiectasis, phthisis, dyspepsia, gastritis, gastric ulcer colitis, appendicitis, etc; certain forms of albuminuria, renal prolapse and prolapse of other abdominal organs, including dilation and prolapse of the stomach, prolapse of the colon; various vascular diseases such as varicose veins, heart affections, aneurysm, etc.; diseases and curvature of the spine, and tendency to contracted pelvis,

hip-joint disease, knock-knees, bow-legs, etc. Some may argue that recumbency does all that the quadruped position could be hoped to do, but I think that is not so. In a short or acute illness recumbency is probably all that is needed in the way of posture, but in a long and chronic affliction the absence of exercise in the rocumbent posture continued over a long period has a weakening and deteriorating effect on the constitution, whereas in such conditions as spinal curvature or Pott's disease, etc., the quadruped position would allow a con-

siderable amount of healthful exercise. "The erect posture should not be too early adopted in children, and after learning it they should be encouraged to revert to the all-fours position for a while each day. The Oriental custom of sitting or reclining on the ground or on couches of mattresses, instead of sitting on chairs, has much to recommend ft.'



the erect position and save the drag of the

obdominal contents on the lower part of

the spine by transferring it directly from

Scoliosis, or curvature of the spine, is

common in man and scarcely known in

the animals, because when a slight devia-

tion occurs owing to occupation or illness

it is aggravated by the weight and the

The doctor particularly recommends fre-

quent exercises in the all-fours position to

The joints of the backbone are rendered

very liable to disease owing to the pres-

sure caused by the upright position.

Spinal disease is very common in the

neck joints of children, because germs

the upper part of the body to the pelvis.

the throat drain back into them, which would not happen in the quadruped

remedy curvature of the spine.

erect posture.

(C) 1922, by American Weekly, Inc. Great Britain Rights Reserved.